DOCUMENT RESUME

ED 128 357 TM 005 479

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TITLE Personnel Test Battery and Scoring Procedures. Memorandum No. L.S. 15.
PUB DATE Feb 75
CONTRACT N00123-73-D-0343
NOTE 38p.; Pages 30-47 and pages 52-66 of the original document are copyrighted and therefore not available; They are not included in the pagination

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Achievement Tests; Biographical Inventories; Marine Technicians; Military Personnel; *Personality Tests; *Personnel Selection; *Predictive Ability (Testing); *Scoring; Trainers; *Vocational Interests
IDENTIFIERS Biosystems General Information Test; Gordon Personal Inventory; Gordon Personal Profile; Kuder Occupational Preference Record Form D; Navy; Personnel History Questionnaire

ABSTRACT

The purpose of this memo is to present tests that comprise the test battery used to select Navy personnel to train marine mammals, and to describe the scoring procedures of the tests. The test battery consists of: Biosystems General Information Test (BGIT), Personnel History Questionnaire (PHQ), Gordon Personal Inventory, Gordon Personal Profile, and Kuder Occupational Preference Record Form D (Selected Keys). The tests were obtained from Blanchard's Biosystems Personnel test battery. Blanchard's Regression Equations are used to determine which people most closely resemble successful marine mammal trainers. (BW)

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ED128357

PERSONNEL TEST BATTERY AND SCORING PROCEDURES

MEMORANDUM NO. L. S. 15

Contract No. N00123-73-D-0543

Prepared for:

Code 404
Naval Undersea Center
Hawaii Laboratory
Kailua, Hawaii

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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February, 1975

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I. PERSONNEL TEST BATTERY AND SCORING PROCEDURES

The purpose of this memo is to present the tests that comprise the test battery and to describe the scoring procedures. The test battery consists of:

- Biosystems General Information Test (BGIT)
- Personnel History Questionnaire (PHQ)
- Gordon Personal Inventory
- Gordon Personal Profile
- Kuder Occupational Preference Record Form D (Selected Keys)

These tests were obtained from Blanchard's Biosystems Personnel test battery (Ref. 1). The selection of tests are presented in Appendix A; Appendix B contains the scoring keys for the battery.

A. BGIT

The BGIT is a 100-item, multiple choice, achievement test. Table 1 contains the test items. The items cover general information and knowledge on four areas considered important to work with marine mammals. The major content areas are:

- Taxonomy, performance and sensory capabilities of marine mammals (24 items)
- Prinicples and techniques in the care, handling and feeding of marine mammals (24 items)
- Training techniques and procedures (32 items)
- Operant conditioning techniques (20 items)

Five scores are derived from the test, one associated with each of the four content areas and a combined total score. One point is awarded for each correct response. No points are awarded for incorrect responses. The number of items responded to correctly determines the score for any content area. Total score is derived by summing the totals for each of four areas (parts).

B. PHQ

The PHQ is a biographical data questionnaire. The questionnaire contains 64 items which are grouped according to the following eight areas:

- Educational experiences
- Social experiences
- Urban/Rural background
- Family background and relations
- Recreational activities
- Pet experiences
- Reading, radio listening and TV viewing habits
- Job experience

One scoring key is associated with each of the six job factors that Blanchard identified as being critical to success as a marine mammal trainer; another scoring key is provided for a global performance measure.

The procedure used to develop scoring keys for the PHQ consisted of assigning a scoring weight of +1 to items that discriminated in a positive direction (a significantly greater proportion of high criterion subjects answered the item than low criterion subjects). Items which differentiated in a negative direction (a significantly greater proportion of low criterion subjects answered the item than high criterion trainers) were assigned a weight of -1. If a subject did not answer an item, it was given a weight of 0. A subject's score on a given job factor is equal to the algebraic sum of the weights assigned to his responses. A constant, equal to the sum of the negatively-weighted items, for a given key, is added to raw scores in order to eliminate negative values.

The number of items that were found to discriminate (either in a positive or negative direction) between high and low criterion trainers for the seven keys are: 31, 25, 12, 24, 33, 27, and 23, respectively.

Scoring Example: Key A (F - I) Item: Age

A weight of -1 is given to all subjects between 17 and 28 years of age, and a weight of +1 is given to subjects who are between 29 and 45 years of age.

C. GORDON PERSONAL PROFILE AND INVENTORY

The profile and inventory are companion personality instruments. Both instruments yield quick, convenient measures of four personality traits. The inventory assesses Cautiousness (C), Original Thinking (O), Personal Relations (P), and Vigor (V). The profile assesses Ascendency (A), Responsibility (R), Emotional Stability (E), and Sociability (S).

The inventory consists of 20 sets of four descriptive phrases called "tetrads." The profile is made up of 18 tetrads. Each of the four traits (on each instrument) is represented by one of the phrases in each tetrad. Each tetrad includes two items that are considered to be equally complimentary (of similar "high" preference value), and two items that are equally uncomplimentary (of similar "low" preference value).

The instruments are virtually self-administering. Individuals normally complete the tests in 20 to 30 minutes. The 18 or 20 items (depending on the instrument) on which the measurement of each trait is based constitute the scale for that trait. For the inventory the maximum possible score for each is 40 points. The maximum score for traits on the profile is 36 points.

Scoring for each trait is performed by counting the marks which appear through the appropriate section of a perforated stencil key. There must be four successive positionings over the same marked answer-space section in order to obtain the separate scores for Cautiousness, Original Thinking, Personal Relations, and Vigor. (Some scorers prefer to cut the key into four separate sections, and to score all booklets on one trait before proceeding to the next trait. They feel that such a procedure makes it less likely that the wrong key will be used.)

Before scoring is started all booklets should be opened to expose both the B and A answer-space columns and the columns should then be inspected for general compliance with the directions, i.e. (1) in each tetrad, one and only one mark under M, and one and only one mark under L, (2) this M mark and L mark in different rows, and (3) completion of all 20 tetrads.

Occasionally an individual will omit a tetrad or mark something other than only one "most" and one "least" choice in a tetrad. Where no more than two of the twenty tetrads have been omitted or incorrectly marked, the obtained scores may still be used. In such circumstances these obtained scores generally will be well within a standard error of the scores that would have resulted had the test been completed according to directions.

Following this inspection, the booklet should be left open with both A and B answer-space sections exposed for scoring.

To score the Cautiousness (C) Scale, place the C (far left) section of the key over the answer-space section of the booklet in such a way that the letters B and A appear through the holes at the top of the stencil; then adjust the stencil so that the hole at the bottom exposes the A on the booklet. Carefully count the number of marks showing through the holes and record this number under C in the score box at the left. (The maximum score for C, and for each of the other three traits, is 40).

To score the Original Thinking (O) Scale, place the stencil slightly to the left (or place the detached O section) so that the B and A appear through the holes on either side of the O at the top of the stencil and the A at the bottom is exposed as before. Then count the number of answer marks showing through the holes, and record this number in the O section of the score box. This procedure is repeated for all of the other traits.

D. KUDER OCCUPATIONAL PREFERENCE RECORD--FORM D

This instrument attempts to assess occupational interests. The inventory consists of 100 triads. For each triad the respondent is to select the descriptive phrase (item) which he would most and least prefer to do.

Two sets of scoring keys are required to evaluate any given respondent. The first set of keys consists of selected occupations whose interests were assumed to be similar to marine mammal trainers (i.e., veterinarian, civil engineer, etc.). The second set of keys was developed by Dr. Blanchard. He developed seven keys, one associated with each of the job factors he identified to underlie success as a trainer.

To score the Preference Record the respondent's answer sheet is compared to the scoring keys. For each response which the respondent has similar to the scoring key, he receives 1 point. For each key, total the number of like responses. This number represents the subject's score on the key. For the specially designed keys a constant (indicated on the scoring key) is added to the score of each key.

II. EVALUATION OF PERSONNEL

To determine which people most closely resemble successful marine mammal trainers, it is necessary to plug their test scores into Blanchard's Regression Equations (Ref.). Blanchard derived equations for each of the six job success factors he identified as underlying success as a trainer. He also developed an equation for a global criterion. These regression equations are listed in Table 1. Since Blanchard's last report, he has developed new equations, which include the weights associated with his specially designed Kuder keys. These new equations should be available by February 15, 1975. When these equations are available they should supercede the equations listed.

Table 1. Job Success Regression Equations

I. Conduct of Animal Training	$y'_I = -73.459 + (2.864)X_{21} + (1.785)X_9 + (.863)X_{17}$
II. Animal Husbandry	$y'_{II} = 20.498 + (1.274)X_{22} + (.606)X_9 + (-.237)X_{20}$
III. Emotional Control	$y'_{III} = 17.459 + (.954)X_{23} + (.367)X_3 + (.315)X_7$
IV. Human Relations	$y'_{IV} = 67.735 + (.512)X_{24} + (-571)X_{16} + (-.185)X_{18}$
V. Job Involvement	$y'_V = -12.015 + (1.686)X_{25} + (3.239)X_9 + (2.156)X_{11}$
VI. Training Technique Development	$y'_{VI} = -22.286 + (1.204)X_{26} + (.679)X_{17} + (.311)X_9 + (.304)X_{20}$

G. Global Criterion $y'_G = -4.364 + (1.072)X_{27} + (.496)X_{11}$

Where X_1 = Predictive instrument score that is inserted into the formula:

X_1 = Gordon Inventory: Cautiousness (C)
X_2 = " " : Original Thinking (O)
X_3 = " " : Personal Relations (P)
X_4 = " " : Vigor (V)
X_5 = Gordon Profile : Ascendency (A)
X_6 = " " : Responsibility (R)
X_7 = " " : Emotional Stability (E)
X_8 = " " : Sociability (S)
X_9 = BGIT: Part 1
X_{10} = BGIT: Part 2
X_{11} = BGIT: Part 3
X_{12} = BGIT: Part 4
X_{13} = BGIT: Total
X_{14} = Kuder 01 (County Agriculture Agent)
X_{15} = Kuder 03 (Farmer)
X_{16} = Kuder 04 (Forester)
X_{17} = Kuder 17 (Civil Engineer)
X_{18} = Kuder 26 (Veterinarian)
X_{19} = Kuder 47 (Auto Mechanic)
X_{20} = Kuder 48 (Truck Driver)
X_{21} = PHQ Key A
X_{22} = PHQ Key B
X_{23} = PHQ Key C
X_{24} = PHQ Key D
X_{25} = PHQ Key E
X_{26} = PHQ Key F
X_{27} = PHQ Key G

To illustrate the personnel evaluation procedure, the results of two hypothetical subjects (Harry and Al) will be compared. For the comparison two job factors will be considered: animal husbandry and the global criterion. To insert the subjects' results into the equations, test scores are needed for the following tests.

		Test Scores	
Job Success Factor	Tests Required	Harry	Al
Animal Husbandry (AH)	X_9	15	10
	X_{20}	32	16
	X_{22}	14	10
Global Criterion (GC)	X_{11}	17	13
	X_{27}	13	10

$$AH_{Harry} = 20.498 + (1.274)\,14 + (.606)\,15 + (-.237)\,14$$
$$= 44.106$$

$$GC_{Harry} = -4.364 + (1.072)\,13 + (.496)\,17$$
$$= 18.004$$

$$AH_{Al} = 20.498 + (1.274)\,10 + (.606)\,16 + (-237)\,14$$
$$= 38.92$$

$$GC_{Al} = -4.364 + (1.072)\,10 + (.496)\,13$$
$$= 12.804$$

These procedures would be repeated on the other five job success factors. The individuals who score the highest on these job factors are more likely to be successful than individuals who do not score as highly.

APPENDIX A

SELECTION OF TESTS

A. Biosystems General Information Test (BGIT)

B. Personnel History Questionnaire (PHQ)

C. Gordon Personal Inventory

D. Gordon Personal Profile

E. Kuder Occupational Preference Record Form D (Selected Keys)

A. BIOSYSTEM GENERAL INFORMATION TEST

PART I

1. The largest of the cetaceans (and of all animals living and extinct) is the

   a) Finback Whale
   b) Gray Whale
   c) Sei Whale
   d) Blue Whale

2. The length and weight of the largest cetacean has been known to exceed

   a) 45 feet, 63 tons
   b) 70 feet, 85 tons
   c) 100 feet, 120 tons
   d) 140 feet, 175 tons

3. For short periods of time, the fastest whale can travel at speeds up to

   a) 10 knots
   b) 15 knots
   c) 20 knots
   d) 30 knots

4. The killer whale belongs to which of the following families?

   a) Delphinidae
   b) Baleen
   c) Rorqual
   d) Mysticeti

5. Air renewal at each breath in land mammals is about 10 to 20 percent. In cetaceans, air renewal is about

   a) the same as land mammals
   b) 40 to 50 percent
   c) 80 to 90 percent
   d) nearly 100 percent

6. The need of cetaceans for fresh water is met by

   a) inhaling cool air saturated with water vapor
   b) liberating water by food oxidation
   c) processing residual fluid from fish
   d) sources such as rainfall and ice

7. The salt content of the blood and body fluids of cetaceans

   a) is higher than that of the water around them
   b) increases after feeding on fish
   c) varies with the temperature of their environment
   d) is kept in balance by their kidneys

8. The only mammal whose milk is richer than that of cetaceans is

   a) cows
   b) reindeer
   c) seals
   d) man

9. Unlike a human diver, cetaceans usually do not suffer from damage from nitrogen bubbles in their blood because

   a) the cetacean does not breathe under water
   b) their metabolic rate increases
   c) blood flow to the brain is decreased
   d) their lungs expand to accommodate nitrogen gas

10. The best developed sense modality in cetaceans is

a) hearing
b) vision
c) smell
d) taste

11. The least developed sense modality in cetaceans is

a) hearing
b) vision
c) smell
d) taste

12. Of the Pinnipeds, the family characterized by an external ear and facile hind flipper is

a) Otariidae
b) Phocidae
c) Odobenidae
d) Mustelidae

13. Sperm whales can stay submerged for periods as long as

a) 45 minutes
b) 90 minutes
c) 120 minutes
d) 180 minutes

14. Sperm whales have been known to dive to depths of nearly

a) 2,000 feet
b) 4,000 feet
c) 6,000 feet
d) 8,000 feet

15. The sea lion's chief means of propulsion is his

a) tail
b) hind-flippers
c) oscillating body movements
d) fore-flippers

16. The characteristic of dolphins that distinguishes them from porpoises is

a) overall size
b) external markings
c) presence of teeth
d) nose (beak) length

17. The up and down movement of the dolphin's tail, rather than side to side as with fishes, aids the animal in

a) swimming at high sustained speeds
b) performing evasive maneuvers
c) diving and surfacing
d) swimming in an inverted position

18. Bottlenose dolphins have been known to dive to depths of around

a) 500 feet
b) 1,000 feet
c) 2,000 feet
d) 3,000 feet

19. As soon as a bottlenose dolphin begins a dive

a) air is expelled to decrease buoyancy
b) sensitivity to carbon dioxide content in the blood increases
c) blood vessels become dilated
d) heart beat slows to 50 percent of normal

PART II

20. Dolphins can stay submerged a maximum time of

a) 2-3 minutes
b) 5-8 minutes
c) 10-14 minutes
d) 15-20 minutes

21. Under normal circumstances, dolphins surface to breathe about

a) twice a minute
b) once a minute
c) once every two minutes
d) once every three minutes

22. In sustained swimming, the bottlenose dolphin's best speed is around

a) 4 knots
b) 12 knots
c) 18 knots
d) 24 knots

23. The effective upper limit of hearing for the bottlenose dolphin has been determined to be about

a) 20 kHz
b) 75 kHz
c) 150 kHz
d) 200 kHz

24. The greatest hearing sensitivity of the bottlenose dolphin is thought to be around

a) 10 kHz
b) 50 kHz
c) 100 kHz
d) 150 kHz

25. During training and biosystem operation, dolphins are fed at the rate of

a) 5-10 lbs per day
b) 10-20 lbs per day
c) 20-30 lbs per day
d) 30-40 lbs per day

26. The best food fish for feeding marine mammals has been

a) individually glazed and frozen
b) frozen for less than two months
c) injected with a saline solution
d) bulk packed and quick frozen

27. Which of the following types of fish is more suitable for freezing and storage?

a) Mackerel
b) Sea herring
c) Bonita
d) Smelt

28. Fish to be used for feeding marine mammals should be

a) frozen slowly and thawed quickly
b) frozen quickly and thawed slowly
c) frozen and thawed quickly
d) frozen and thawed slowly

29. Which one of the following methods is probably best for thawing frozen fish?

a) Salt water at 58° F
b) In air at 68° F
c) Hot fresh water
d) Ice water

30. During thawing, fish body cells are destroyed and fluids are lost if the fish

a) are thawed at more than 68°F
b) were stored at more than 4°F
c) were frozen slowly
d) are thawed at less than 90% humidity

31. Prior to transporting newly-captured animals, they are injected with drugs to

a) tranquilize them during transport
b) guard against pneumonia
c) facilitate their breathing capacity
d) lower their metabolic rate

32. Vitamin supplements are probably most beneficial when

a) animals are food deprived
b) when cut-up fish are used
c) during training
d) all of the above

33. The first thing to do when an animal being transported by stretcher begins to thrash about is to

a) quickly restrain him
b) place a damp towel over his eyes
c) administer a calming drug
d) pet him to calm him down

34. It is probably best to feed vitamkn supplements

a) just prior to bulk feeding at the end of the day
b) immediately following the morning feeding
c) with two fish one hour prior to training
d) anytime after a training or exercise period

35. The first step that should be taken with a Tursiops with a suspected health problem is to

a) reniew his feeding record
b) obtain a blood test
c) change his diet
d) place him in isolation

36. The most practical approach for early detection of animal health problems is to

a) have a vet on call
b) take blood samples periodically
c) "know" the animal
d) weight the animal periodically

37. An indication of a serious health problem in a bottlenose dolphin is

a) a clear fluid discharge from the eyes
b) snorthing and blowing mucus
c) skin lesions formed in square-like patches
d) heavy, labored breathing when in a stretcher

38. When dolphins are put under total anesthesia for operative purposes, their respiration

a) ceases
b) decreases to one breath every five minutes
c) becomes erratic
d) must be controlled by chemical injections

39. Usually, the first sign of illness in cetaceans is

a) loss of appetite
b) nervous behavior
c) vomiting
d) blowing excessive mucus

40. Cetaceans discriminate among various types of food mostly on the basis of

a) odor
b) taste
c) texture
d) all the above

41. When handling or working with dolphins, care should be taken because

a) their skin is easily bruised and cut
b) they have been know to bite humans
c) they can drown easily
d) all of the above

42. A dolphin recently placed in captivity will usually

a) stay near the bottom of his enclosure
b) take his food near the surface of the water
c) lobtail at frequent intervals
d) be fed sparingly until adapted to captivity

43. A reliable indication of a health problem in pilot whales is

a) foul breath odor
b) mucus in the blowhole
c) bubbles coming from the blowhole
d) none of the above

44. An indication of a health problem in killer whales is

a) phlegm in the blowhole
b) foul breath odor
c) foul mouth odor
d) all of the above

45. Which of the following foods is most often fed to pilot whales?

a) Butterfish
b) Squid
c) Herring
d) Silver smelt

46. Getting a sea lion used to being handled can be started by

a) fitting him with a muzzle and stroking his neck by hand
b) restraining his fore-flippers and neck with a training harness
c) stroking him with a stick while feeding him
d) blindfolding him and then gently petting his head and neck

47. Which of the following types of food is usually most preferred by sea lions?

a) Smelt
b) Bonita
c) Pacific mackerel
d) Squid

48. In sea lions, a very green, liquid stool would be an indication of

a) a gastro-intestinal problem
b) a steady diet of smelt
c) intake of salt water
d) normal digestion

PART III

49. On the average, which of the following behaviors requires the most training effort in bottlenose dolphins?

a) recall training
b) gate training
c) stretcher training
d) station holding

50. Which of the following is not a natural behavior for a bottlenose dolphin?

a) Bowing
b) Tail walking
c) Lob tailing
d) Breaching

51. Of the following behaviors, the best indication of a naive dolphin's readiness for paddle training is

a) projecting his head from the water
b) taking a fish from the trainer's hand
c) tolerating being touched
d) stationing for 2 or 3 fish

52. In training a bottlenose dolphin to press one of two paddles, if the animal attempts to press the wrong paddle

a) sound the bridging stimulus
b) remove the paddle from the water
c) sound the recall signal
d) throw a fish near the correct paddle

53. The aversive technique most frequently used when a bottlenose dolphin gives an incorrect response during training is to

a) take a brief time out
b) throw a few fish outside his pen
c) slap the water with a paddle or hand
d) withhold reward until two consecutive correct responses are given

54. If a "crowding net" is used as an aid in gate training, it is best that

a) it be placed in the water before the gate is opened
b) the recall pinger is turned-off
c) its use is coupled with food reward
d) forced gate training is usually fruitless

55. Which of the following basic behaviors is usually the most difficult to train in bottlenose dolphins?

a) eating dead food
b) hand feeding
c) stationing
d) holding head above water

56. Use of physical punishment in training bottlenose dolphins is generally considered to be

a) acceptable during adaptation to captivity
b) necessary to train certain complex behaviors
c) never acceptable under any circumstances
d) acceptable in preventing injury to animal or trainer

57. In general, the preferred size for dolphins just introduced to training is

a) 4 1/2 to 5 1/2 feet
b) 5 1/2 to 6 1/2 feet
c) 6 1/2 to 7 1/2 feet
d) 7 1/2 to 8 1/2 feet

58. Compared to the bottlenose dolphin, the killer whale is relatively more difficult to train on which of the following behaviors?

a) adaptation to captivity
b) station holding in a pen
c) hand feeding
d) boat following

59. You are gate training a dolphin. The escape route is open and the conditioned stimulus has been presented. If the animal refuses to go through the gate after several trials

a) enter the water and guide the animal through the opening
b) food-deprive the animal until he responds to the stimulus
c) use a net with the intention of forcing him through the gate
d) provide additional training on the conditioned stimulus

60. During adaptation to captivity, dolphins that are cautious, withdrawn, and avoid the trainer have been known to

a) be generally untrainable
b) need isolation from other animals
c) be abnormally aggressive
d) develop into reliable animals

61. In hand-taming an animal, it may be necessary for the trainer to

a) enter the water with the animal
b) partially restrain the animal
c) use only live food
d) all the above

62. A major consideration in training a group of animals is

a) age differences
b) differences in adaptation to captivity
c) the amount of food consumed per day
d) all the above

63. If an animal that is hungry and healthy seems confused, is unresponsive and reluctant to come back to the trainer, the trainer should probably

a) be patient but persist in working on the behavior
b) give the animal a time-out period
c) discontinue training for that session
d) back-off and make the task a little easier

64. In training an animal on a series of performance increments to achieve a final criterion level, the trainer should

a) work on only one performance increment each training

64. In training an animal on a series of performance increments to achieve a final criterion level, the trainer should

a) work on only one performance increment each training session
b) make sure the animal's performance is perfect at one level before moving to the next
c) give the animal minimum practice at any one level before moving to the next
d) appreciate that the animal may not be able to reach the criterion level and take care not to pressure him

65. If while exercising an animal on a trained behavior the animal did not quite meet the established standard, the trainer should

a) reward the animal anyway to prevent regression
b) withhold reward on that trial
c) reward the animal but speak harshly to him first
d) give the animal a time-out period

66. If his training schedule for a given animal is not going as planned, the trainer should

a) be more strict and insistent with the animal
b) review and perhaps revise his training approach
c) slow the training pace to reduce animal stress
d) revise the schedule to reflect the animal's willingness to learn

67. The "bridging stimulus" is sounded

a) to command the animal to perform a behavior
b) at the precise instant the animal responds as required
c) just as the animal grasps his food reward
d) to indicate inadequate performance

68. While often effective, taking shortcuts in an established training plan can result in

a) animal stress
b) having to regress to achieve the behavior
c) an increase in overall training time
d) all of the above

69. A basic principle in developing and maintaining an effective man-animal relationship is to

a) never employ aversive techniques
b) avoid traumatic events during training
c) minimize animal interactions with other animals
d) employ hand contact whenever possible

70. In establishing the training pace on a behavior, the trainer should be

a) patient and allow the animal to set the pace
b) insistent and assert his dominance
c) directed by the training plan and schedule
d) persistent but sensitive to animal reaction

71. Proper timing in making transitions from one behavior to the next behavior in a chain is necessary to guard against

a) animal confusion and stress
b) over-training the animal
c) introducing ambiguities
d) all the above

72. A workable bridging stimulus is

a) the whistle
b) rattling the fish bucket
c) slapping the water
d) any of the above

73. When training a non-preferred behavior or one with aversive properties, one approach is to

a) reinforce a non-preferred behavior with a preferred one
b) increase magnitude of reward proportionately
c) intersperse preferred with less preferred behaviors
d) any of the above

74. After a behavior is well learned by an animal, use of a bridging stimulus (whistle)

a) may be discontinued
b) can be used intermittently
c) becomes the primary reinforcer
d) helps maintain the behavior

75. A basic principle in training naive sea lions is for the trainer to

a) never strike the animal
b) never touch the animal
c) employ only visual cues
d) play a dominant role

76. Avoidance training for sea lions to be used in object recovery operations refers to

a) other sea lions and fish
b) targets composed or organic material
c) targets located at excessive depths
d) previously marked targets

77. Sea lions can usually be trained to wear a harness and muzzle in about

a) 1 to 2 months
b) 2 to 3 months
c) 3 to 4 months
d) 4 to 5 months

78. The first step in training a sea lion usually is to

a) fit him with a harness
b) reduce his tendency to bite
c) hand tame him
d) get him on a pedestal

79. of the following, the most accepted way to extinguish biting behavior in sea lions is to

a) speak harshly to the animal
b) rap him on the nose with two fingers
c) disregard the behavior
d) place a muzzle on the animal

80. Sea lions which are nervous and react fearfully to various noises and objects are best handled by

a) placing them in a feeder pool
b) training only in semi-isolated areas
c) placing them in with fully-adapt adapted animals
d) making a variety of background noise during training

PART IV

81. Training marine mammals primarily involves

a) respondent conditioning
b) operant conditioning
c) classical conditioning
d) behavioral learning

82. In order to learn a response, an animal must have

a) a conditioned stimulus
b) an unconditioned stimulus
c) reinforcement
d) an instrumental response

83. Chaining behaviors is made possible by

a) primary reinforcement
b) partial reinforcement
c) secondary reinforcement
d) differentiated reinforcement

84. When an animal who has been trained to respond to a 5 kHz tone also responds to a 10 kHz tone, the phenomenon is called

a) secondary reinforcement
b) partial reinforcement
c) response generalization
d) stimulus generalization

85. The training technique of getting the response to one stimulus to become the stimulus for the next response is called

a) stimulus generalization
b) response extension
c) chaining
d) progressive conditioning

86. Training an animal to respond to only a 10 kHz tone involves the process of

a) discrimination
b) selective conditioning
c) partial reinforcement
d) response generalization

87. Chains of behaviors are formed by linking together a string of

a) discriminative stimuli and differentiated responses
b) discriminative stimuli and generalized responses
c) differentiated stimuli and mediated responses
d) generalized stimuli and instrumental responses

88. Rewarding an animal for every fifth correct response rather than for each correct response is an example of

a) differential reinforcement
b) partial reinforcement
c) deferred reinforcement
d) delayed reinforcement

89. When a plateau in learning is reached, it is advisable to

a) practice harder
b) practice more regularly
c) accept it as the best one can do
d) review training procedures

90. Expressed approval of an animal's behavior by his trainer is

a) a partial reinforcer
b) a primary reinforcer
c) a peripheral reinforcer
d) a secondary reinforcer

91. For the great majority of behaviors, the best learning schedule is

a) long practice periods and short rest periods
b) short practice periods and long rest periods
c) short practice periods and short rest periods
d) long practice periods and long rest periods

92. In training animals, a bridging stimulus (whistle, buzzer, acoustic signal) can be used

a) as the primary reinforcer
b) as the unconditioned stimulus
c) to indicate the start of a trial
d) to induce the animal to extend or improve his perfkrmance

93. An animal learns to press the correct response paddle through

a) stimulus discrimination
b) stimulus generalization
c) stimulus differentiation
d) stimulus mediation

94. Which of the following is <u>not</u> an example of operant or voluntary behavior?

a) gasping when dashed with cold water
b) walking across a room
c) an infant squirming in his crib
d) humming a tune

95. Discrimination learning is largely a matter of

a) generalization
b) selective reinforcement
c) extinction
d) stimulus mediation

96. Use of physical punishment, like a slap or blow, in training animals can result

a) in the training area becoming a conditioned negative reinforcer
b) in a conditioned fear response to the trainer
c) depression of all behaviors being trained
d) in all of the above

97. Unlike stimuli which elicit respondent behaviors, stimuli which will evoke operant behaviors

a) involve glandular activities
b) are reflexive in nature
c) involve smooth muscle activities
d) are initially unknown

98. Reinforcement schedules based on time intervals or a certain number of responses, rather than on each response, tend to

a) increase resistance to extinction
b) decrease resistance to extinction
c) decrease rate of response
d) create an emotional upset in the animal

99. The sound of the trainer's whistle following a correct paddle response by a dolphin acts as a

a) primary reinforcer
b) secondary reinforcer
c) partial reinforcer
d) momentary reinforcer

100. The "crowding net" sometimes used as an aid in gate training an animal is an example of

a) a conditioned stimulus
b) reward training
c) a noxious stimulus
d) punishment training

B. PERSONNEL HISTORY QUESTIONNAIRE - FORM A

Name _____ Date _____

Organization _____ Job Title _____ Grade/Rank _____

Years in Current Job _____ Age _____ Height _____ Weight _____

Directions

The following questions are about your personal history and the activities of yourself and your family. Answer frankly and as accurately as you can. If you are not sure which answer or answers are right for you, make the best guess you can. Select the answer which you feel best applies to you and put an X in front of it. Check only one answer unless the question asks you to check more than one. Be sure to answer every question that applies to you. Your answers will be strictly confidential, and will be used only for personnel research purposes at NUC.

1. Circle the last year of school you completed.
   Elementary school: 1 2 3 4 5 6 7 8
   High school: 1 2 3 4
   College: 1 2 3 4 5 6

2. What was the population of the city or town in which you grew up? (If you lived in more than one, answer for the one you lived in longest).
   _____ 1. Less than 500
   _____ 2. 500 to 5000
   _____ 3. 5000 to 20,000
   _____ 4. 20,000 to 100,000
   _____ 5. Over 100,000

3. Other than school work, how much reading did you do between the ages of 12 and 18?
   _____ 1. Not very much
   _____ 2. About the average
   _____ 3. Quite a bit
   _____ 4. A great deal

4. How many pupils were in the elementary school which you attended? (If you went to more than one, answer for the one you attended longest).
   _____ 1. Less than 25
   _____ 2. 25 to 100
   _____ 3. 100 to 500
   _____ 4. 500 to 1000
   _____ 5. Over 1000

5. When you had difficulty understanding your school work, what did you generally do?
   _____ 1. Asked the teacher for help
   _____ 2. Asked my father or mother for help
   _____ 3. Studied the problem through myself
   _____ 4. Did not let it bother me
   _____ 5. I seldom had difficulty with school work

6. How far do you believe your father (step-father or foster father) went in school?
   _____ 1. Elementary (8th grade or less)
   _____ 2. Some high school
   _____ 3. Graduated from high school
   _____ 4. Some training after high school but not college
   _____ 5. Some college
   _____ 6. Graduated from college

7. Which of the following subjects did you like best in school?
   _____ 1. English
   _____ 2. Arithmetic
   _____ 3. Shop courses
   _____ 4. Science courses
   _____ 5. History
   _____ 6. None of these

8. Which of the following subjects did you dislike the most in school?
   _____ 1. Arithmetic
   _____ 2. History
   _____ 3. Shop courses
   _____ 4. English
   _____ 5. Science courses
   _____ 6. Some other subject

9. Were your parents born in the same country where you were born?
   _____ 1. Both my mother and father were
   _____ 2. Only my mother was
   _____ 3. Only my father was
   _____ 4. Neither one was

10. Which of the following do you most resemble as a person?
   _____ 1. Your father
   _____ 2. Your mother
   _____ 3. A brother
   _____ 4. A sister
   _____ 5. None of these

11. When you were growing up, to what extent did your parents discuss plans with you about your future?
   _____ 1. Very often
   _____ 2. Fairly often
   _____ 3. Occasionally
   _____ 4. Rarely
   _____ 5. Never

12. When you were in your teens, with whom did you most often talk over your problems?
   _____ 1. Father
   _____ 2. Mother
   _____ 3. A brother
   _____ 4. A sister
   _____ 5. A friend
   _____ 6. No one

13. Whom did you live with most of the time before you were 15 years old?
   _____ 1. With both parents
   _____ 2. With one parent
   _____ 3. With a relative
   _____ 4. With foster parents
   _____ 5. Other than the above

14. At the time you finished school, how many close friends did you have?
   _____ 1. One or two
   _____ 2. Several
   _____ 3. Many
   _____ 4. None

15. How many times did your family move from one location to another while you were growing up?
   _____ 1. Never
   _____ 2. Once
   _____ 3. Twice
   _____ 4. Three times
   _____ 5. Four times
   _____ 6. Five or more times

16. When you were around 15 years old, were most of your friends:
_____ 1. Younger than you were
_____ 2. About your age
_____ 3. Older than you were
_____ 4. I had few friends

17. When you were in elementary school, were you a leader of the group you ran around with?
_____ 1. Always
_____ 2. Frequently
_____ 3. Occasionally
_____ 4. Seldom or never
_____ 5. I can't remember

18. How old were you when you had your first regular paid job, part-time or full time?
_____ 1. 12 years or less
_____ 2. 13 to 15
_____ 3. 16 to 18
_____ 4. 19 or more
_____ 5. I never had a paid job

19. How old were you when you started buying most of your own clothes from wages you earned, or money given you by your parents or relatives?
_____ 1. 13 years old or younger
_____ 2. 14 to 15 years old
_____ 3. 16 to 17 years old
_____ 4. 18 years or older
_____ 5. I have never bought my own clothes

20. With whom have you spent most of your spare time since you were 13 years old?
_____ 1. Usually alone
_____ 2. With other members of my family
_____ 3. With one or two close friends
_____ 4. With a group of friends

21. Did you collect such things as stamps, coins, insects, rocks, etc., when you were growing up?
_____ 1. Frequently
_____ 2. Occasionally
_____ 3. Seldom
_____ 4. Never

22. Which of the following organizations did you belong to as a boy? (Check all that apply.)
_____ 1. The 4-H Club
_____ 2. Hobby Club
_____ 3. Boy Scouts
_____ 4. School organizations
_____ 5. Church organizations
_____ 6. Other: (_____)
_____ 7. I did not belong to any organizations in my youth

23. Of all the physical activities you undertook in your teens, which did you enjoy most?
_____ 1. Baseball, football or basketball
_____ 2. Hunting
_____ 3. Fishing
_____ 4. Tennis or golf
_____ 5. Swimming or surfing
_____ 6. Boxing or wrestling
_____ 7. Bowling
_____ 8. Horseback riding
_____ 9. Something else

24. At what age did you learn to swim?
_____ 1. Around 5 to 8 years old
_____ 2. Around 9 to 12 years old
_____ 3. Around 13 to 16 years old
_____ 4. After I was 17 years old
_____ 5. I can't swim

25. How many brothers and sisters have you had:
Who were younger than you? _____
Who were older than you? _____

26. How many times did you change schools? (Elementary and high school)

_____ 1. 0 to 1 time
_____ 2. 2 to 3 times
_____ 3. 4 to 5 times
_____ 4. 6 to 7 times
_____ 5. More than 7 times

27. What were your main subjects in high school?

_____ 1. Business or commercial
_____ 2. Trade or shop courses
_____ 3. Agricultural courses
_____ 4. Science courses
_____ 5. College preparatory
_____ 6. Other (_____)

28. What sort of grades did you usually get in high school?

_____ 1. Straight "A's"
_____ 2. Mostly A's
_____ 3. Mostly B's
_____ 4. Mostly C's
_____ 5. Mostly D's

29. How many pupils were in the high school you attended? (If you went to more than one, answer for the one you attended longest.)

_____ 1. Less than 100
_____ 2. From 100 to 500
_____ 3. From 500 to 1000
_____ 4. From 1000 to 3000
_____ 5. More than 3000

30. How old were you when you graduated from high school?

_____ 1. Younger than 14
_____ 2. 14 to 16
_____ 3. 17 to 19
_____ 4. 20 or older
_____ 5. I did not graduate

31. If you did not graduate from high school, why did you leave?

_____ 1. To get married
_____ 2. To get a job
_____ 3. Because of poor health
_____ 4. Because I was not interested or got too far behind
_____ 5. To enter the armed forces
_____ 6. None of these (_____)
_____ 7. I graduated high school

32. Did you live on a farm during your boyhood?

Yes _____ No _____

If you answered "yes" above, please answer questions 33 through 36.

33. How many years did you live on a farm before you were 19 years old?

_____ 1. Less than 1 year
_____ 2. 1 to 4 years
_____ 3. 5 to 9 years
_____ 4. 10 to 14 years
_____ 5. 15 to 19 years

34. How large was the farm on which you lived? (If you lived on more than one, answer for the one you lived on longest.)

_____ 1. Less than 40 acres
_____ 2. 40 to 119 acres
_____ 3. 120 to 199 acres
_____ 4. 200 to 439 acres
_____ 5. Over 440 acres

35. What type of farm did you live on? (If you lived on more than one, check the type you lived on longest.)

_____ 1. Cash grain
_____ 2. Livestock (hogs, cattle, hores, etc.)
_____ 3. Dairy
_____ 4. Truck farm
_____ 5. Combined grain and livestock
_____ 6. Another type (_____)

36. Would you rather have lived in a town or city than on a farm?
Yes _____ No _____ Undecided _____

37. If you did not live on a farm before you were 19 years old, did you work on a farm?
(A) Yes _____ No _____
(B) If you said "yes" above, for how long did you work?
_____ 1. Part-time work (1-2 yrs.)
_____ 2. Part-time work (3 or more yrs.)
_____ 3. Full-time work (1-2 yrs.)
_____ 4. Full-time work (3 or more yrs.)
_____ 5. I lived on a farm

38. Were you ever in the Armed Forces of the United States?
(A) Yes _____ No _____
(B) If you answered "yes", how many years of active duty did you serve? _____ Years
(C) Which branch of the armed services were you in?
_____ 1. Army
_____ 2. Navy
_____ 3. Marines
_____ 4. Coast Guard
_____ 5. Air Force
_____ 6. Merchant Marine

39. How old were you when you were married?
_____ 1. Less than 19 years old
_____ 2. 19 to 22 years old
_____ 3. 23 to 26 years old
_____ 4. 27 to 30 years old
_____ 5. Over 30 years old
_____ 6. I am not married

40. Which of the following sports have you engaged in during the past five years? (Check all that apply.)
_____ 1. Team sports (baseball, volleyball)
_____ 2. Swimming, diving, or surfing
_____ 3. Golf
_____ 4. Tennis
_____ 5. Bowling
_____ 6. Racing (cars, cycles)
_____ 7. Boating (power or sail)
_____ 8. Chess, checkers, cards
_____ 9. Horseback riding
_____ 10. Hunting
_____ 11. Fishing
_____ 12. I have not engaged in sports
_____ 13. Other than the above list below)

_____

41. Did you have an animal as a pet during your boyhood? Yes _____ No _____

If you answered "yes" above, please answer questions 42 thru 46.

42. What type of pet or pets did you have for the longest time?
_____ 1. Dog
_____ 2. Cat
_____ 3. Horse
_____ 4. Bird
_____ 5. Fish
_____ 6. Amphibians or reptiles
_____ 7. Rabbits or rodents
_____ 8. Other (list below)

_____

_____

43. Did you train your pet to perform tricks or for uses such as hunting?
Yes _____ No _____

44. What was the longest period you had a particular pet?
_____ 1. Less than 1 year
_____ 2. 1-2 years
_____ 3. 2-4 years
_____ 4. 4-6 years
_____ 5. Over 6 years

45. Did you ever enter your pet in a competitive event?
Yes _____ No _____

46. Were you totally responsible for the care, feeding, and general welfare of your pet?
Yes _____ No _____

47. If you went to college, answer questions 48 thru 53. (If you went to more than one college, answer for the one you attended longest.)

48. How old were you when you graduated college?
_____ 1. Younger than 18
_____ 2. 18 to 20
_____ 3. 20 to 22
_____ 4. 22 to 24
_____ 5. 24 to 26
_____ 6. Over 26
_____ 7. I did not graduate college

49. What sort of grades did you usually receive in college?
_____ 1. Straight "A's"
_____ 2. Mostly A's
_____ 3. Mostly B's
_____ 4. Mostly C's
_____ 5. Mostly D's

50. If you did not graduate from college, why did you leave?
_____ 1. To get married
_____ 2. To take a job
_____ 3. Because of poor health
_____ 4. I was not interested or fell behind
_____ 5. Lack of adequate finances
_____ 6. To enter the armed forces
_____ 7. None of these
_____ 8. I graduated college

51. What was your main subject in college.
_____ 1. Business or Economics
_____ 2. Biology
_____ 3. Zoology
_____ 4. Math or physics
_____ 5. Liberal arts
_____ 6. Engineering
_____ 7. Other (_____)

52. Which of the following types of colleges did you attend?
_____ 1. Private (all men)
_____ 2. Private (men and women)
_____ 3. State operated
_____ 4. City operated
_____ 5. Church sponsored
_____ 6. Other (_____)

53. What was the total enrollment of your college?
_____ 1. Less than 500
_____ 2. From 500 to 999
_____ 3. From 1000 to 4999
_____ 4. From 5000 to 9999
_____ 5. More than 10,000

54. Check any of the following that are, or were your hobbies at one time.

_____ 1. Photography
_____ 2. Woodworking
_____ 3. Electronics
_____ 4. Metal working
_____ 5. Crafts (ceramics, etc.)
_____ 6. Cars; boats
_____ 7. Painting; sculpting
_____ 8. Model plane building
_____ 9. Fish aquaria
_____ 10. I have not had a hobby
_____ 11. Other than the above (list below)

_____
_____

55. What is your present marital status?

_____ 1. Single
_____ 2. Married, no children
_____ 3. Married, one or more children
_____ 4. Widowed
_____ 5. Separated or divorced

If you checked No. 3, 4, or 5 above, how many children do you have? _____

56. To what extent is your wife currently employed?

_____ 1. Full-time
_____ 2. About half-time
_____ 3. Several hours per week
_____ 4. She is not employed
_____ 5. I am not married

57. How often have you voted in local, state, and national elections?

_____ 1. I am not elgible
_____ 2. Never, although eligible
_____ 3. Occasionally
_____ 4. Frequently
_____ 5. Almost every time

58. Check any of the following that you read frequently. (Check all that apply.)

_____ 1. Sports magazines
_____ 2. Newspapers
_____ 3. News magazines (Time, Newsweek)
_____ 4. Pictorial magazines (Life, Look)
_____ 5. Scientific magazines
_____ 6. Trade journals
_____ 7. Scientific journals
_____ 8. Novels
_____ 9. Non-fiction books
_____ 10. Playboy
_____ 11. Other than the above (list below)

_____
_____

59. How many full-time jobs have you had during the past 10 years?

Enter number here (_____)

60. Which of the following types of TV programs do you generally watch? (Check all that apply.)

_____ 1. News programs
_____ 2. Situation comedies
_____ 3. Musical variety shows
_____ 4. Panel/Game shows
_____ 5. Sports
_____ 6. Movies
_____ 7. Comedy shows
_____ 8. I do not have TV
_____ 9. I seldom watch TV
_____ 10. None of the above

61. What type of radio programs do you generally listen to? (Check all that apply)

_____ 1. Classical music
_____ 2. Western music
_____ 3. Popular music
_____ 4. News programs
_____ 5. Plays
_____ 6. Sports broadcasts
_____ 7. I have no radio
_____ 8. I seldom listen to the radio
_____ 9. None of the above (list below)

_____
_____

62. Have you ever performed work in some way related to marine mammals?
Yes _____ No _____

63. If you answered yes, please complete the following form by entering the number of months experience you have had in each capacity for each type of animal.

Capacities	Dolphins/ Porpoises	Pilot Whales	Killer Whales	Pinnipeds
Trainer				
Operator				
Feeding/Handling				
Equipment Design				
Data Collection				
Health Treatment				
Marine Biologist				
Veterinarian				
Ocean Capturing				

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Gordon Personal Inventory

The Psychological Corporation
757 Third Avenue
New York, New York 10017

Gordon Personal Profile

The Psychological Corporation
757 Third Avenue
New York, New York 10017

Kuder Occupational Preference Record, Form D

Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611

APPENDIX B

TEST BATTERY SCORING KEYS

A. Biosystems General Information Test (BGIT)

B. Personnel History Questionnaire (PHQ)

C. Gordon Personal Inventory

D. Gordon Personal Profile

E. Kuder Occupational Preference Record Form D (Selected Keys)

ANSWER KEY - FORM B

ANSWER SHEET

Total Score

A. BIOSYSTEMS GENERAL INFORMATION TEST

Name _____ Date _____
Last First Initial

Organization _____ Job Title _____ Grade/Rank _____

1. a b c d	26. a b c d	51. a b c d	76. a b c d
2. a b c d	27. a b c d	52. a b c d	77. a b c d
3. a b c d	28. a b c d	53. a b c d	78. a b c d
4. a b c	29. a b c d	54. a b c d	79. a b c d
5. a b c d	30. a b c d	55. a b c d	80. a b c d
6. a b c d	31. a b c d	56. a b c d	81. a b c d
7. a b c d	32. a b c d	57. a b c d	82. a b c d
8. a b c d	33. a b c d	58. a b c d	83. a b c d
9. a b c d	34. a b c d	59. a b c d	84. a b c d
10. a b c d	35. a b c d	60. a b c d	85. a b c d
11. a b c d	36. a b c d	61. a b c d	86. a b c d
12. a b c d	37. a b c d	62. a b c d	87. a b c d
13. a b c d	38. a b c d	63. a b c d	88. a b c d
14. a b c d	39. a b c d	64. a b c d	89. a b c d
15. a b c d	40. a b c d	65. a b c d	90. a b c d
16. a b c d	41. a b c d	66. a b c d	91. a b c d
17. a b c d	42. a b c d	67. a b c d	92. a b c d
18. a b c d	43. a b c d	68. a b c d	93. a b c d
19. a b c d	44. a b c d	69. a b c d	94. a b c d
20. a b c d	45. a b c d	70. a b c d	95. a b c d
21. a b c d	46. a b c d	71. a b c d	96. a b c d
22. a b c d	47. a b c d	72. a b c d	97. a b c d
23. a b c d	48. a b c d	73. a b c d	98. a b c d
24. a b c d	49. a b c d	74. a b c d	99. a b c d
25. a b c d	50. a b c d	75. a b c d	100. a b c d

Part I [ ] Part II [ ] Part III [ ] Part IV [ ]

B. Scoring Keys for the Personal History Questionnaire for Each of Six Job Factors and a Global Criterion of Performance.

Key A (F-I)

Item	Category	Wt.
Age	17-28	-1
	29-45	+1
10	5	-1
11	4-5	+1
12	5	+1
15	1-2	-1
	3-6	+1
21	1-2	-1
	3-4	+1
27	4	+1
29	1-3	+1
	4-5	-1
40	5	-1
	6	-1
43	Yes	-1
	No	+1
51	5	-1
	7	+1
54	7	-1
55	1	-1
	3	+1
56	4	+1
57	2-3	+1
	4-5	-1
58	2	-1
	3	-1
	7	+1
	10	-1
60	2	+1
63	0-3 yrs	-1
	3 or more	+1

Total = 31 Items
Constant = +16

Key B (F-II)

Item	Category	Wt.
1	1 yr Coll	-1
	2 yr Coll	+1
11	4-5	+1
15	1-2	-1
	3-6	+1
19	1-2	+1
23	1	-1
26	1	-1
	2-5	+1
27	4	+1
38A	Yes	+1
	No	-1
38C	2	+1
40	5	-1
	6	-1
50	8	+1
51	2	+1
56	1	-1
	4	+1
58	7	+1
59	3 or less	+1
	4 or more	-1
61	4	-1
63	0-3 yrs	-1
	3 or more	+1

Total = 25 Items
Constant = +11

Key C (F-III)

Item	Category	Wt.
5	3	+1
8	2	-1
10	5	-1
18	3-5	+1
21	1-2	-1
	3-4	+1
23	5	+1
27	2	-1
	5	+1
54	8	-1
58	3	-1
	4	-1

Total = 12 Items
Constant = +7

Key D (F-IV)

Item	Category	Wt.
1	1 yr Coll	-1
	2 yr Coll	+1
3	3-4	-1
10	5	-1
21	1-2	-1
	3-4	+1
22	4	-1
26	1	+1
	2-5	-1
27	2	-1
	5	+1
37A	Yes	+1
	No	-1
40	6	-1
	10	-1
43	Yes	-1
	No	+1
44	1-3	-1
50	8	+1
51	2	+1
	5	-1
54	3	-1
	6	-1
58	10	-1

Total = 24 Items
Constant = +16

B. (continued)

Key E (F-V)

Item	Category	Wt.
Age	17-28	-1
	29-45	+1
1	1 yr Coll	-1
	2 yr Coll	+1
7	3	-1
	4	+1
8	2	-1
	4	+1
20	4	+1
26	1	-1
	2-5	+1
27	2	-1
	4	+1
	5	+1
37A	Yes	+1
	No	-1
40	6	-1
	10	-1
43	Yes	-1
	No	+1
50	8	+1
51	2	+1
	5	-1
	7	+1
54	4	-1
55	1	-1
	3	+1
58	4	-1
	7	+1
	10	-1
61	1	+1
63	0-3 yrs	-1
	3 or more	+1

Total = 33 Items
Constant = +16

Key F (F-IV)

Item	Category	Wt.
Age	17-28	-1
	29-45	+1
1	1 yr Coll	-1
	2 yr Coll	+1
5	2	+1
14	1	-1
	2	+1
19	1-2	+1
	3-5	-1
24	1	+1
	2-4	-1
27	4	+1
39	1-2	-2
	3-5	+1
40	6	-1
	10	-1
43	1	-1
	2	+1
46	1	-1
	2	+1
50	8	+1
54	3	+1
	6	-1
58	1	-1
	9	+1
60	2	+1
	3	+3

Total = 27 Items
Constant = +12

Key G (Global)

Item	Category	Wt.
Age	17-28	-1
	29-45	+1
5	1	+1
8	2	-1
	4	+1
27	4	+1
38C	2	+1
	3	-1
40	5	-1
	6	-1
	9	-1
46	1	-1
	2	+1
51	5	-1
54	3	+1
56	1	-1
57	2-3	+1
	4-5	-1
58	3	-1
	7	+1
	10	-1
63	0-3 yrs	-1
	3 or more	+1

Total = 23 Items
Constant = +13

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Gordon Personal Inventory

The Psychological Corporation
757 Third Avenue
New York, New York 10017

Gordon Personal Profile

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Kuder Occupational Preference Record, Form D

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